REMARKS

In the office action, claims 1-14, 16-23, 25, 28-36, 48 and 41-43 were rejected. By the present response, claim(s) 1-4, 14, 17, 21-23, 25, 35, 36, and 38 are amended. Upon entry of the amendments, claims 1-14, 16-23, 25, 28-36, 48 and 41-43 will remain pending in the present patent application. Reconsideration and allowance of all pending claims are requested.

Rejections Under 35 U.S.C. § 112

The examiner rejected claims 1-14, 16-23, 25, 28-36, 38, and 41-43 under 35 U.S.C. § 112, first paragraph for filing to comply with the written description requirement. Specifically, the examiner stated that "… to claim that the chemical components of the airflow stream are analyzed into their individual chemical components, this limitation is not supported by the specification as originally filed." Office Action mailed June 7, 2010 Paragraph 4. The applicants respectfully traverse this rejection.

The recitations relating to a chemical sensor that detects chemical composition of air above the cooktop is amply supported throughout the specification as filed. For example, paragraph 21 of the current specification states, "the housing 12 includes sensors 14 for detecting *certain vapors and their constituents*" (emphasis added). Furthermore, paragraph 22 recites, "Typically, the inputs 32 received by the sensor 14 includes a chemical composition 34 of the air above the active zone 30 of the cooktop 28." In paragraph 26, the specification recites that the sensor detects "*target air constituents* to be removed from the air above the active zone…" (emphasis added). Paragraph 49 also uses the target constituent language by reciting, "monitoring the level of the *target constituents* present in the air" (emphasis added). The use of "target air constituents" clearly shows that the sensor detects specific components within the air for removal. Furthermore, paragraph 33 recites various examples of air quality sensors including, "heated metal oxide sensors, electro-chemical gas sensors, pellistors, hot wire

catalytic gas sensors, semiconductor gas sensors, photo ionization smoke detectors, thermal conductivity type gas sensors, ultrasonic gas sensors, UV flame sensors, IR temperature sensors, heat flux sensors, air velocity sensors and so forth." Such recitation clearly identifies certain sensors that detect chemical compositions in the air. Lastly, paragraph 51 describes other applications of the current techniques which include "a clothes washing machine may be controlled by sensing a target compound that may be an ingredient of the washing agent to evaluate the options for the operation of the washing machine." This example, by analogy, shows that the sensors are used to determine target compositions in the air, for use in managing the air.

In addition the examiner rejected claims 1-14, 15-23, 25, 28-36, 38, and 41-43 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicants regard as the invention. The applicants have amended claims 1-4, 14, 17, 21-23, 25, 35, 36, and 38 to clarify certain features and to expedite allowance of the present application. In view of these amendments, the applicants request the examiner withdraw the rejections to claims 1-14, 16-23, 25, 28-36, 38, and 41-43 under 35 U.S.C. § 112.

Rejections Under 35 U.S.C. § 103

The examiner rejected claims 1-7, 14, 16-20, 22-23, 25, 28, 35, 36, 18, and 41-43 under 35 U.S.C. § 103(a) as obvious over Melink (U.S. Patent No. 6,170,480; hereinafter "Melink") in view of Bowen, Jr. et al. (U.S. Patent No. 4,146,016; hereinafter "Bowen"). Additionally, the examiner rejected claims 8, 9, 11-13, 21, 29, 30, and 32-24 under 35 U.S.C. § 103(a) as obvious over Melink in view of Bowen, and further in view of Morton (U.S. Patent No. 6,349,716; hereinafter "Morton"), and further in view of Wang et al. (U.S. Patent No. 5,236,595; hereinafter "Wang"). The examiner further rejected claims 10 and 31 under 35 U.S.C. § 103(a) as unpatentable over Melink in view of Bowen, further in view of Morton and Wang, and further in view of Jensen (U.S. Patent No. 6,521,859; hereinafter "Jensen").

The burden of establishing a *prima facie* case of obviousness falls on the examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

In their current state, independent claims 1, 14, 22, and 35 recite, *inter alia*, "a chemical sensor" for "detecting a chemical composition in air." The claims further recite controlling air movement based on the signals coming from the chemical sensors. The rejection of independent claims 1, 14, 22, and 35 under 35 U.S.C. § 103 is defective because the cited references in combination do not disclose all the limitations of the rejected claims. Neither Melink, Bowen, nor Morton discloses "a chemical sensor" for "detecting a chemical composition in air."

In contrast, Melink discloses a by-product sensor that is capable of detecting the quantities of by-products based on a threshold level of by-product in the air, but not a particular chemical composition in the air. Melink, column 7, lines 10-48. Indeed, the Melink by-product sensor uses a light beam that, upon interruption by a threshold

quantity of *any* by-product that breaks the light path, will output by-product signals. This sensor is not a chemical sensor and appears to be incapable of detecting any chemical composition in air. Melink, column 7, lines 16-34. Melink does not disclose the ability to manage air flow by detection of specific chemical compositions, but instead merely senses the presence of a threshold quantity of *any* by-product that produces a break in a light beam path. Neither Bowen nor Morton obviate this deficiency of Melink, and the examiner did not establish that they do or could.

Thus, in view of these deficiencies of the Melink, Bowen, and Morton references, alone and in combination, with respect to at least the above-noted feature, no *prima facie* case of obviousness is believed to exist with respect to independent claims 1, 14, 22, and 35 of the present application. Therefore, the applicants respectfully request withdrawal of the present rejection and allowance of the present claims.

Conclusion

If the examiner believes that a telephonic interview will help speed this application toward issuance, the examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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